WARNING
CONCRETE CHAIN SAW SAFETY

Any piece of equipment can be dangerous if not operated properly. **YOU** are responsible for the safe operation of this equipment. The operator must carefully read and follow any warnings, safety signs and instructions provided with or located on the equipment. Do not remove, defeat, deface or render inoperable any of the safety devices or warnings on this equipment. **IF** any safety devices or warnings have been removed, defeated, defaced or rendered inoperable, **DO NOT USE THIS EQUIPMENT!!!**

⚠**WARNING:** Operating, servicing and maintaining this equipment can expose you to chemicals including engine exhaust, carbon monoxide and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize your exposure, avoid breathing exhaust, do not idle the engine except as necessary, operate and service your equipment in a well-ventilated area and wear gloves or wash your hands frequently when servicing your equipment**.** For more information go to **www.P65warnings.ca.gov**

INTRODUCTION

This manual outlines the maintenance and operation of ICS® manufactured products. This is a professional tool and is solely intended for use by trained and experienced operators. The 695XL chainsaw is designed to cut concrete, stone, and masonry when used with the appropriate genuine ICS Diamond Chain. To get the maximum benefit from your saw, and ensure maximum safety, be sure to read this manual thoroughly, and periodically review safety instructions.

TABLE OF CONTENTS

SYMBOLS & LABELS	**2**
SAFETY	**3 - 4**
SET-UP	**5 - 8**
OPERATION	**9 - 12**

If the person receiving this handout will not be the user of the equipment, forward these instructions to the operator. **IF** there is any doubt as to the operation or safety of the equipment, **DO NOT USE!!! CALL A TOOL SHED IMMEDIATELY!!! FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN INJURY OR DEATH**

SYMBOLS AND LABELS

THE FOLLOWING SYMBOLS ARE FOUND THROUGHOUT THIS MANUAL AND/OR ON THE SAW AND ARE DESIGNED TO MAKE YOU AWARE OF POTENTIAL HAZARDS OR UNSAFE PRACTICES.

SAFETY ALERT Indicates that the text that follows explains a danger, warning or caution.

READ INSTRUCTIONS
The original instruction manual contains important safety and operating information. Read and follow the instructions carefully.

WEAR EYE, HEARING AND RESPIRATORY PROTECTION WEAR HEAD PROTECTION
Wear eye , hearing and respiratory protection and a protective helmet when operating the saw.

WEAR LONG PANTS
Wear long pants when operating the saw.

WEAR FOOT PROTECTION
Wear appropriate closed-toe boots when operating the saw.

WEAR HAND PROTECTION
Wear hand protection when operating the saw.

KERF WIDTH
Do not insert tool into slot narrower than chain.

VENTILLATION REQUIRED
Use tool in a well ventilated area

SOUND POWER
Sound power level is 115 dB(A).

BEWARE OF KICKBACK
Kickback can cause severe injuries.

TWO-HANDED HOLD
Operate the saw with two hands, securely gripping both handles

ONE-HANDED HOLD
Do not operate the saw with one hand.

SYMBOLS AND LABELS

THE FOLLOWING SYMBOLS ARE FOUND THROUGHOUT THIS MANUAL AND/OR ON THE SAW AND ARE DESIGNED TO MAKE YOU AWARE OF POTENTIAL HAZARDS OR UNSAFE PRACTICES.

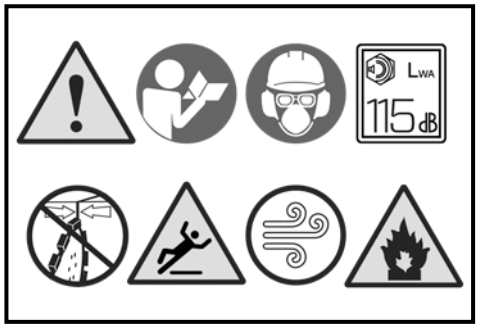
SLIPPERY SURFACE
Unsure footing can lead to accidents.

DO NOT USE A LADDER
Never stand on a ladder when using the saw.

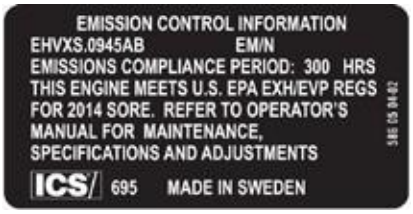
FIRE DANGER
Risk of fire if warnings not followed.

LABELS ON YOUR SAW

SAFETY LABEL



EMISSIONS LABEL



LABEL SHOWN FOR REFERENCE ONLY

SAFETY RULES

To get the maximum benefit from your saw, and assure maximum safety, be sure to read this manual thoroughly and follow the safety instructions provided.

EXPLANATION OF WARNING LEVELS

⚠ DANGER

Indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

⚠ WARNING

Indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.
Indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

⚠ CAUTION

IMPORTANT

Indicates a potential situation exists which, if not avoided, may result in damage to your saw or property.

HANDLING FUEL SAFELY

⚠ WARNING

Fuel vapors are highly flammable.
Turn off the saw, lock the off/on switch in the “STOP” position, and allow the engine to cool a few minutes before fueling. Do not smoke or refuel the saw in close proximity to any ignition sources. Move the saw at least 3 m (10 ft) from the fueling area before restarting it.

Avoid spilling fuel on yourself or on the saw.
Use only approved containers to transport and store fuel. If fuel is spilled on the saw, wipe up the spillage and allow the rest to evaporate. If fuel is spilled on yourself or your clothes, immediately remove contaminated clothing and wash any part of your body that has contacted fuel with soap and warm water.

⚠ CAUTION

Check saw for fuel leaks before starting.
Check regularly for leaks from the fuel caps and fuel lines and do not start saw if any leaks are found.

WORK AREA SAFETY

Following are the basic instructions to assure work area safety.

⚠ DANGER

Breathing exhaust gases can cause asphyxiation and carbon monoxide poisoning in high concentrations.
Use the saw only in a well-ventilated area.

⚠ WARNING

Drugs or alcohol can impair vision, dexterity, and judgment.
Do not operate the saw when tired or under the influence of any substance.

⚠ CAUTION

Remove or control slurry to prevent slippery conditions while cutting. This saw uses water and can cause slippery surfaces due to the slurry produced and/or freezing temperatures.

Keep children and bystanders away from work area.
Set up a well-marked safety zone with a roped boundary and clear signs to keep bystanders at least 6 m (20 ft) away.

PERSONAL SAFETY 

Following are the basic instructions to assure personal safety.

⚠WARNING

Always wear protective clothing.
At a minimum always wear eye protection and/or face shield, hearing protection, long sleeve shirt, long pants, closed toe shoes with non-slip soles, and gloves. In many work situations, a hard hat and steel toed shoes may also be required. Avoid loose fitting clothing.

Long-term exposure to noise can result in permanent hearing impairment.
Always wear approved hearing protection.

⚠WARNING

This saw can generate hazardous dust and vapors.
Determine the nature of the material you are going to cut before proceeding with the job. Be especially aware of cutting materials containing silica and asbestos as inhaling dust can result in respiratory disease. Be sure to use appropriate respiratory protection designed to filter out microscopic particles. Be sure to use adequate water pressure.

Over-exposure to vibration can lead to circulatory and/or nerve damage to the extremities, especially in cold temperatures (Reynaud's Disease).
If you experience tingling, numbness, pain or changes in skin color, particularly in your fingers, hands or wrists, stop using the saw immediately. If the problem persists, seek medical attention.

This machine produces an electromagnetic field during operation.
This field may under some circumstances interfere with active or passive medical implants. To reduce the risk of serious or fatal injury, we recommend persons with medical implants consult their physician and the medical implant manufacturer before operating this machine.

USING THE ICS SAW SAFELY 

Following are the basic instructions to assure safe use of the saw. Also read and understand additional safety precautions specific to the operation and maintenance of the saw throughout this manual.

⚠ DANGER

DO NOT operate the ICS saw with a saw chain or saw bar designed to cut wood.
Using wood cutting saw chain on the ICS saw could result in severe injuries to the operator or a bystander! Use ONLY the cutting attachments specified in this manual on this saw.

⚠WARNING

DO NOT operate the saw with damaged, modified, broken, or missing components.
Below safety features are designed to protect against contact with moving parts, ejected debris, broken chain, thrown water, and concrete slurry.

- Side cover
- Mud flap
- Mud flap bracket (Chain Catcher)
- Rear hand guard
- Throttle trigger lock-out

Use only Genuine ICS replacement parts. Use of unauthorized aftermarket parts may result in injury or damage to the saw.

DO NOT insert the guide bar into a slot narrower than the width of the chain.
Rapid pushback, kickback and/or chain breakage could result.

DO NOT operate the saw without an adequate water supply.
The integral water supply channels in the guide bar act to cool and lubricate the cutting system as well as to suppress dust and debris generated during cutting. Assure that the water supply is capable of delivering 20 psi pressure to the saw at a minimum flow rate of 1 gpm.

Never attempt to cut ductile iron pipe or similar pipe materials with the saw unless using PowerGrit® Utility Saw Chain.
Using concrete saw chain in these applications can cause the chain to snag abruptly in the cut which may result in chain breakage, pushback and/or kickback.

GUIDEBAR AND DIAMOND CHAIN INSTALLATION & TENSIONING

Following are the basic instructions for guide bar and diamond chain installation and tensioning.

⚠WARNING

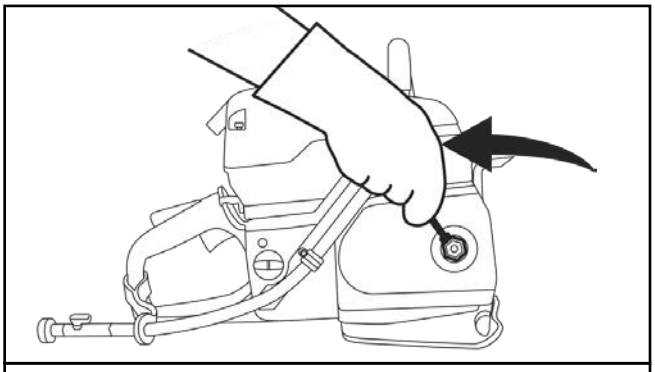
Never perform any maintenance or adjustments on the saw while the engine is running.
Be sure the on/off control is locked in the "STOP" position before proceeding.

Improper chain tension can lead to failure of the chain or derailing of the chain off of the guide bar.
Check tension frequently and adjust if drive links of chain hang 3/4 in or more below the guide bar groove

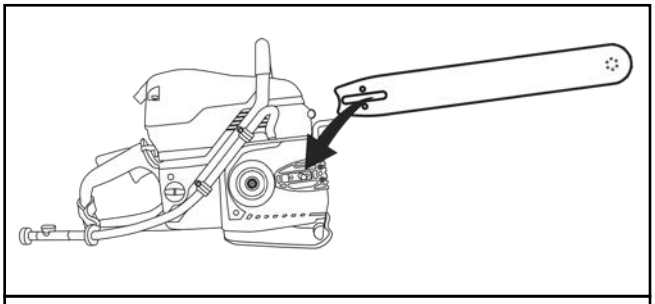
⚠CAUTION

Always wear gloves when handling the bar and chain.
These components can develop sharp edges and cause cuts.

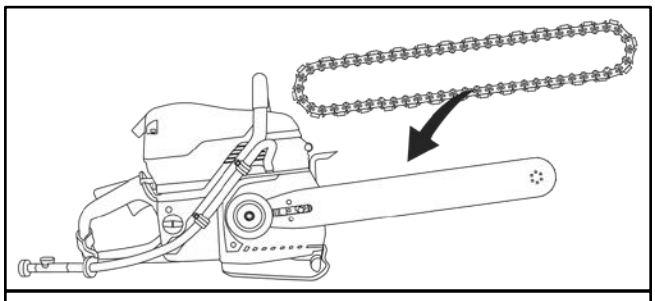
GUIDE BAR AND DIAMOND CHAIN INSTALLATION & TENSIONING



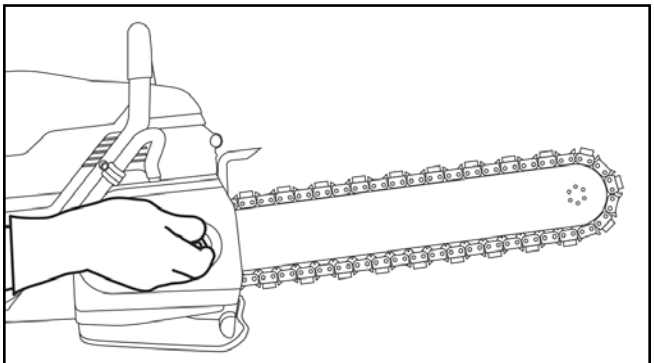
STEP 1
Loosen side cover nut and remove side cover.



STEP 2
Place guide bar slot over bar stud and alignment block, ensuring even contact with bar pad.

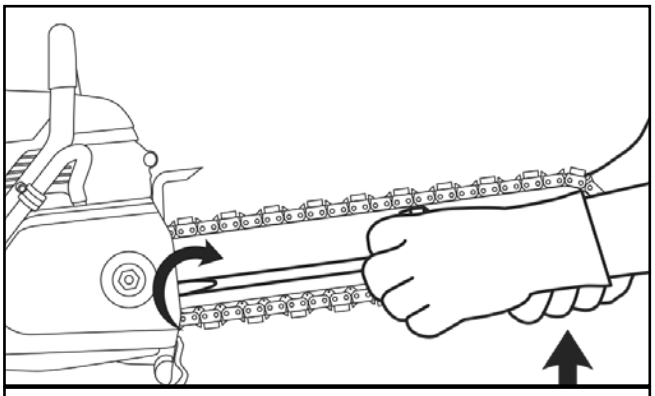


STEP 3
Mount the diamond chain on the guide bar starting at the drive sprocket and continue over the guide bar nose.
NOTE: FORCE4® requires rim to be pulled outward for chain installation.

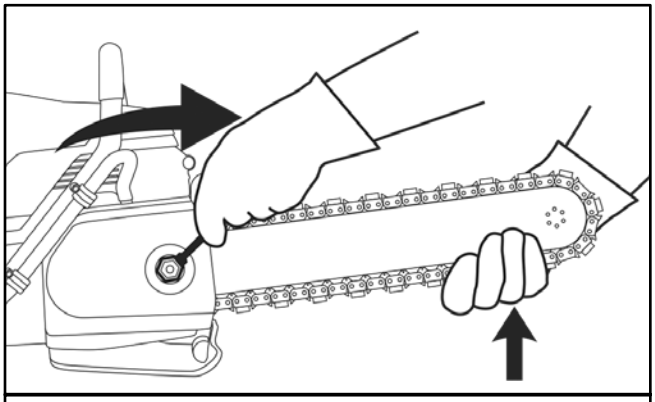


STEP 4
Install the side cover and assure tensioning adjustment pin engages in the mating hole in the guide bar. Tighten side cover nut finger tight, but do not fully tighten until chain is properly tensioned.
NOTE: To ease assembly, turn tensioning screw fully counterclockwise before installing side cover.

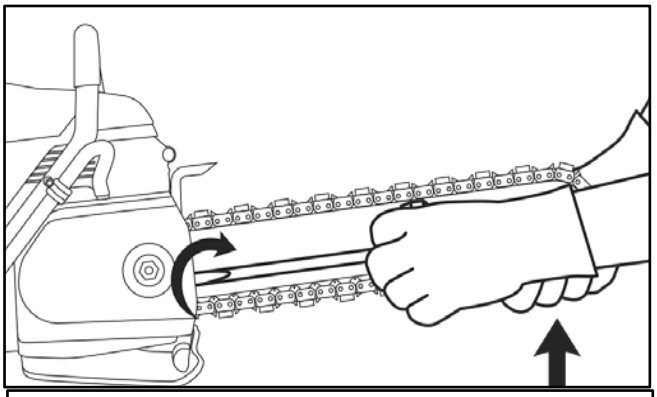
GUIDE BAR AND DIAMOND CHAIN INSTALLATION & TENSIONING



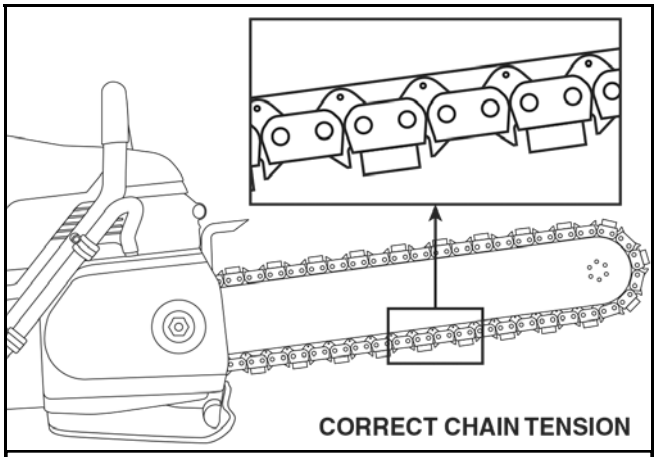
STEP 5
Make sure all the drive links are inside the guide bar groove then lift the bar nose and tension the chain by turning the tensioning screw clockwise.



STEP 7
Continue to lift up on the nose of the guide bar and firmly tighten the side cover nut.
NOTE: Tighten the side cover nut to 20-25 ft-lbs.

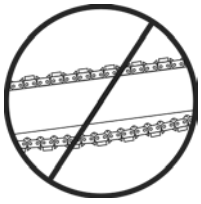


STEP 6
Check for proper tension by pulling the chain around the bar by hand. If you cannot easily pull by hand, the chain is too tight and needs to be loosened slightly.
CAUTION: Be aware that the guide bar rails may develop sharp edges over time so always pull the diamond chain by the diamond segments.



STEP 8
Correct chain tension is achieved when drive links of chain hang just outside of the bar groove. Chain should move freely around guide bar by hand.

CHAIN TOO TIGHT



CHAIN TOO LOOSE

CHECKING & ADJUSTING CHAIN TENSION

All chains have a tendency to stretch when used. ICS chains stretch more than wood cutting chains because of the abrasive materials they are cutting.

⚠WARNING

Improper chain tension can lead to failure of the chain or derailing of the chain off of the guide bar.
Check chain tension frequently and adjust if drive links of chain hang 3/4 in or more below the guide bar.
Assure that proper chain tension is maintained.

⚠CAUTION

If tension is set too tight, it will lead to excessive chain stretch, and most of the saw's power will be used just to overcome friction. In severe cases the chain may not turn at all, and can lead to chain breakage. If the tension is set too loose, the chain could be thrown off of the bar, or allow the sprocket to turn without turning the chain, which will damage the drive links.

IMPORTANT

When a chain stretches to a point where the drive links are hanging approximately 1/2 in to 3/4 in below the guide bar groove, it is time to tension the chain.

CONNECT TO WATER SUPPLY

Following are the basic instructions to assure correct water supply to the saw.

⚠WARNING

ICS diamond saws require a continuous water supply to the guide bar and chain. A key purpose of the supply water is dust suppression. The potential for airborne particulates depends on many factors including, but not limited to, the material being cut, application and cutting environment. In all cases, assure that the water supply is capable of delivering 20 psi pressure to the saw at a minimum flow rate of 1gpm.

NOTE: Local and/or regional regulation can vary widely. It is the responsibility of the operator to wear appropriate dust protection applicable in their area and suitable to the application.

Never operate saw with insufficient water supply.

Insufficient water supply will result in excessive wear to the chain, which can lead to excessive stretch, chain breakage and/or damage to the guide bar nose sprocket.

Attach to water supply capable of delivering 20 psi pressure to the saw at a minimum flow rate of 1 gpm. The single most important factor an operator can control to increase chain life is to use adequate water pressure.

FUELING

Following are the basic instructions to assure safe fueling procedures.

⚠ DANGER

Fuel vapors are highly flammable.
Turn off the saw, lock the off/on switch in the "STOP" position, and allow the engine to cool a few minutes before fueling. Do not smoke or refuel the saw in close proximity to any ignition sources. Move the saw at least 10 ft from the fueling area before restarting it.

IMPORTANT

FUEL

ICS saws require the use of high quality, 90 Octane or higher fuel combined with ICS 2-stroke oil (or other high quality 2-stroke oil) specifically formulated for air- cooled power equipment at a mixture of 2% (50:1). Due to the heavy duty cycle ICS saws are subjected to in both concrete and utility pipe cutting applications, oil mixture and fuel quality are critical to the performance and life of the engine.

FUEL MIXING INSTRUCTIONS

⚠ CAUTION

Pressure can build up in the fuel tank and container and possibly cause sudden release of fuel vapors when the tank is opened.
Open the fuel cap slowly and always provide adequate ventilation when handling fuel.
It is important to accurately measure the amount of oil to be mixed with petrol to assure that the correct mixture is obtained.

IMPORTANT

When mixing small amounts of fuel, even small inaccuracies can drastically affect the ratio of the mixture.

Always mix petrol and oil in a clean container approved for use with fuel. Keep fuel container closed tightly to prevent moisture from getting into the fuel. Do not mix more than one month's supply of fuel. This helps prevent the separation of the 2-stroke oil from the petrol (varnishing).

Before fueling, clean the area around fuel cap on the saw to prevent dirt from contaminating the fuel. Contamination of the fuel tank can lead to saw malfunction.

Always begin mixing fuel by pouring half the amount of petrol to be prepared into the mixing container. Then add the correct amount of 2-stroke oil for 2% (50:1) mixture and finish by adding petrol to obtain the total quantity of mixed fuel. Shake the fuel container to thoroughly mix the petrol and oil before adding to the saw.
The table below shows the correct quantity of two-cycle oil to be used.

FUEL MIXTURE: 2% (50:1) mixture petrol/oil.

PETROL	OIL
US Gallon	US Fl oz
1	2.6
2 1/2	6.4
5	12.8

NOTE: If the saw is not used for an extended period of time (3 months) the fuel tank should be emptied and cleaned.

OPERATION

Following are the basic instructions to assure safe operation of the saw.

⚠WARNING

Never start the saw without the bar, chain and side cover properly assembled.

DO NOT operate the saw with loose, missing, damaged or improperly installed or repaired parts.
Check that the components shown below are intact, undamaged, and installed correctly:

- Side cover nut torqued down properly
- Side cover not damaged and discharge port not plugged
- Handles not loose, gripping area is clean and undamaged
- Mud flap is not ripped, torn or missing and fully attached to the saw
- Cylinder cover is properly secured in place
- Muffler not damaged and is adequately secured to cylinder
- Guide bar not bent or otherwise damaged such as rails dished and uneven
- Nose sprocket not excessively worn or broken, and turns freely
- Diamond chain does not have loose rivets, chassis damage, or missing diamond segments
- Chain tensioner mechanism functions properly and pin is not bent or broken
- Drive sprocket not excessively worn and slides easily on adapter
- Check alignment of drive sprocket and guide bar

PRE-OPERATION SAFETY CHECKS

Perform the following safety checks each day to be sure that the safety features designed into the saw are functioning properly. If any items are excessively worn or damaged, replace before use.

- With on/off switch locked in the “STOP” position, without starting saw and with decompression valve depressed, pull starter rope slowly and inspect for fraying, wear and abrasion
- Assure vibration isolators are intact
- With engine running and without depressing trigger lockout, pull throttle trigger and assure continuous chain movement does not occur
- Verify at engine idle speed that the chain does not move

STARTING & STOPPING THE SAW

⚠WARNING

Be sure that no part of the cutting system is contacting a solid object when starting the saw.
When the choke and/or throttle advance is engaged for starting, the chain may move and cause the saw to react if the chain contacts a solid object.

⚠ CAUTION

Move the saw at least 10 ft from the fueling area before starting it.

Assure that secure footing is established and chain is not contacting any objects.
When starting the saw, place the saw on clear and level ground.

IMPORTANT

Failure to break-in an engine may result in piston seizure.
It is very important to break-in a new engine to “seat” all moving parts, especially the piston rings. To break-in the engine, run one full tank of 2% (50:1) fuel at idle, cycling the throttle every 5 to 10 minutes to prevent loading.

Do not obstruct air intake.
Loose clothing can inadvertently be drawn into air intake and obstruct air flow which may result in engine stall.

STOPPING THE SAW

To turn the engine off, push the on/off control briefly to the right until engine stops. Once released, control will automatically return to the “START” position. If control is pushed beyond the detent, it will lock in the “STOP” position and prevent starting. Close water valve completely.

COLD ENGINE STARTING PROCEDURE

1. Assure on/off control is not locked in the “STOP” position.
2. Pull the multi-function lever out, which also sets the throttle advance.
3. Depress primer bulb until fuel is visible in bulb. May take 10 or more pushes.
4. Push in decompression valve.
5. Open the water valve 1/4 turn.
6. Place foot on the base of the rear handle, and place one hand on front handle.
7. With opposite hand, slowly pull starter handle until you feel the starter pawls engage.
8. Pull the starter cord (hard, fast, short pulls) until engine initially fires or “pops”. Could be as many as 10-15 pulls.
9. Push the multi-function lever in, this will keep throttle in advance position.
10. Pull the starter cord until engine starts - should be 1 to 2 pulls.
11. Release the throttle advance by pulling and releasing the throttle trigger, which allows engine to return to normal idle speed.
12. Allow the engine to idle briefly then pull throttle trigger several times to help warm up the engine.
13. Open the water valve completely.

WARM ENGINE STARTING PROCEDURE

1. Assure on/off control is not locked in the “STOP” position.
2. Pull multi-function lever out, and immediately push back in to set the throttle advance. If the multi-function lever is left in the out position on a warm engine, the carburetor will flood with petrol. If this occurs, see Troubleshooting section.
3. Push in decompression valve.
4. Open the water valve 1/4 turn.
5. Place foot on the base of the rear handle, and place one hand on front handle.
6. With opposite hand, slowly pull starter handle until you feel the starter pawls engage.
7. Pull the starter cord until engine starts. Should be 1-2 pulls.
8. Release the throttle advance by pulling and releasing the throttle trigger, which allows engine to return to normal idle speed.
9. Allow the engine to idle briefly then pull throttle trigger several times to help warm up the engine.
10. Open the water valve completely.

PRECUT CHECKLIST 

⚠WARNING

Sudden contact of the guide bar nose with a foreign object may generate kickback.
Remove and/or avoid any obstructions (plumbing, water supply hoses, electrical conduit, air ducts, etc.) that may interfere with the cut.

To avoid electrocution, check for live electrical wires.
Wires may be hidden within or behind walls and/or laying around the workspace. Assure that any ancillary electrical equipment (fans, pumps, vacuums, etc.) are properly grounded and certified for use in the intended environment.

Always operate the saw with solid footing and both hands on the saw. Keep your left hand on the front handle and your right hand on the rear handle. Wrap your thumbs around the handles to assure you maintain a secure grip on both handles.

Never operate the saw during severe inclement weather.
Freezing conditions, lightening and sudden downpours can create hazardous job site conditions.

Always wear protective clothing.
At a minimum always wear eye protection and/or face shield, hearing protection, long sleeve shirt, long pants, closed toe shoes with non-slip soles, and gloves. In many work situations, a hard hat, steel toed shoes and a respirator may also be required. Avoid loose fitting clothing.

Cutting with the saw may generate sparks, especially when cutting through metal (such as rebar), and may start a fire in combustible materials such as dry grass, wood and fuel.
Be sure to use adequate water pressure and have fire fighting equipment readily available.

CUTTING WITH THE SAW

⚠WARNING

DO NOT insert the guide bar into a slot narrower than the width of the chain.
Rapid pushback, kickback and/or chain breakage could result.
Be sure cut concrete cannot fall and injure the operator or bystanders.
Assure cut piece is controlled and does not fall unexpectedly.
NOTE: Concrete is very heavy; one cubic foot = 12 in x 12 in x 12 in = 150 lbs.

⚠CAUTION

Slippery or unstable surfaces such as ladders may cause a loss of balance or control of the saw.
Always keep proper footing and operate the saw only when standing on fixed, secure and level surface.
Unexpected loss of control of the saw and loss of balance can result in injury.
Do not overreach and do not cut above shoulder height.
Do not allow workpiece to pinch the guide bar and chain, or rapid pushback could result.
Always cut bottom of opening first and assure workpiece is secure and does not shift during cutting operations.
Do not operate saw upside down.
Cutting debris can be directed back towards the operator.
Take special precautions when cutting in horizontal orientation.
Be aware that debris may be ejected differently than when cutting in a vertical position.
Always operate saw at full throttle.

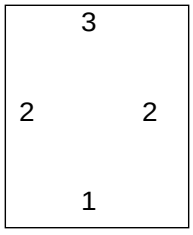
IMPORTANT

For best results, always operate the saw at full power.

To assure the best performance from your ICS saw, follow all safety precautions and recommended techniques. Additional helpful information can be obtained at icsdiamondtools.com.

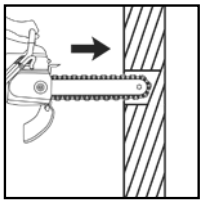
CONCRETE/MASONRY CUTTING
Planning the Cut

1. Select the proper chain type for the material being cut. Refer to the chain selection guide in this manual.
2. Outline the cut with a permanent marker for a visual cutting guide.
3. Avoid pinching the guide bar and chain by using shims or other anchoring devices to stabilize the workpiece. Always plan to cut the bottom of an opening first, then top or sides. Save the easiest cut for last (see image at below).
4. Be sure cut concrete cannot fall and injure the operator or bystanders. As the cut is being completed, assure that appropriate bracing is in place to control the cut section of the workpiece. Concrete is very heavy, one cubic foot = 12 in x 12 in x 12 in = 150 lbs.

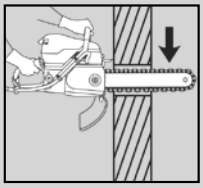


CONCRETE/MASONRY CUTTING
Recommended Concrete Cutting Techniques

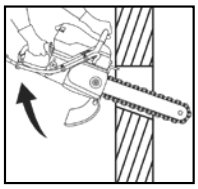
1. Plunge in



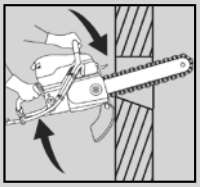
2. Cut down to open slot



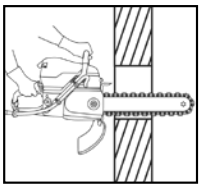
3. Insert WallWalker® rotate rear handle up



4. Pull saw out, rotate rear handle down, press bottom of saw to leading edge of cut and rotate rear handle up



5. Reengage WallWalker® and repeat Steps 3 and 4



CUTTING TIPS

- For the straightest cuts use the “Step Cut” method:
  - First score the entire cut line approximately a 1/2 in deep using the nose of the guide bar
  - Next, deepen the cut by about two inches
  - Then plunge all the way through and complete the cut using the WallWalker® as a pivot point and pull on the rear handle to rotate the bar into the cut
- Always operate the concrete saw at full throttle. If too much force is applied, the saw will lug or stall. The chain will not have enough speed to cut effectively. If too little feed force is applied, the diamonds will skid and glaze over.
- Plunge cut instead of starting at the top surface of the wall. This will reduce chatter, extend diamond life, create a straighter cut and more quickly enable the use of the WallWalker.
- When cutting heavy rebar, slowly “rock” the saw so that you’re always cutting concrete as well as steel. This will help keep the diamonds exposed. Also, expect less chain life when cutting heavy rebar.
- Expect more chain stretch when making nose-buried cuts for extended periods of time, as the chain does not have a chance to “throw” the slurry away from the nose of the guide bar.
- If the saw begins to cut consistently crooked, stop the saw, remove the bar and chain and turn the bar over and use the other side. Dress worn rails with a belt sander.
  Note: The normal life of a guide bar is two to three diamond chains. Heavy rebar can shorten guide bar life.
- The guide bar is solely a guide track for the chain. Never use the guide bar to lift, twist or pry concrete material
- When using a new chain, you can increase the initial cutting speed by “opening up the diamonds”. This can be accomplished by first making a few cuts in an abrasive material such as a cinder block or brick.